

Serial No. 053,694

surface of the tibial platform means for rotating and sliding movement relative thereto, the bearing insert means provided with a generally concave second superior bearing surface for providing an articulated joint between the tibial platform means and femoral portions of the knee, the generally concave second superior bearing surface defined by a predetermined radius providing a predetermined engagement height;

wherein the improvement comprises:

(c) track means for preventing rotation of the bearing insert means relative to the tibial platform means independent of anterior-posterior sliding movement of the bearing insert means relative to the tibial platform means thereby permitting the predetermined radius to be a non-central radius thereby providing the bearing insert means with an engagement height greater than predetermined engagement height.--

Rewrite Claim 54 (amended) as Claim 54 (twice amended) as follows:

44/54. ((twice amended)) An improved prosthetic knee joint, comprising:

a tibial platform for replacing tibial portions of a knee, [a] the tibial platform provided with two outwardly curved tracks on its superior surface for constraining motion of a pair of intermediate tibial bearing components during joint articulation to a predetermined path relative to the tibial platform;

Serial No. 053,694

C2 *P* a pair of intermediate tibial bearing components, each component provided with an inferior bearing surface for being slidably received in one of the outwardly curved tracks, and each component provided with a generally concave bearing surface on its superior surface providing an articulated joint with femoral condylar surfaces; and

*P* during knee joint articulation: (i) the pair of tibial bearing components simultaneously slide anteriorly-posteriorly in the outwardly curved tracks to provide [unconstrained] anterior-posterior shift, (ii) one of the tibial bearing components slides anteriorly in one of the curved tracks while the other of the tibial components [is] slides posteriorly in the other of the tracks to provide [unconstrained] axial rotation, and (iii) the tracks provide enhanced medial-lateral stability.

Rewrite Claim 55 as Claim 55 (amended) as follows:

C3 ~~45~~ 55. (amended) An improved prosthetic knee joint, comprising:  
*P* a tibial platform for replacing tibial portions of a knee, the tibial platform provided with an outwardly curved track on its superior surface for constraining motion of an intermediate tibial bearing component during joint articulation to a pre-determined path relative to the tibial platform;

*P* a femoral component for replacing femoral portions of a knee, the femoral component having an inferior generally convex bearing surface;

Serial No. 053,694

an intermediate tibial bearing component provided with an inferior bearing surface for being slidably received in the outwardly curved track, [and] the intermediate tibial bearing component provided with a generally concave bearing surface on its superior surface for articulation with the inferior generally convex bearing surface provided on the femoral component; and

during knee joint articulation: the tibial bearing component sliding anteriorly-posteriorly in the outwardly curved track to provide [unconstrained] anterior-posterior shift, [unconstrained] axial rotation, and the outwardly curved track providing enhanced medial-lateral stability.

~~Rewrite Claim 56 as Claim 56 (amended) as follows:~~

46 ~~56~~: (amended). An improved prosthetic joint of the type including:

- (a) tibial platform means for replacing tibial portions of a knee and having a superior bearing surface;
- (b) bearing insert means for providing an articulated joint between the tibial platform means and femoral portions of the knee, the bearing insert means having an inferior bearing surface for slidably and/or rotatably engaging the superior bearing surface of the

Serial No. 053,694

tibial platform means during joint articulation and undergoing axial rotation and/or anterior-posterior shift during joint articulation; the bearing insert means having medial-lateral stability during joint articulation;

wherein the improvement comprises:

(c) means for constraining motion of the bearing insert means during joint articulation to a predetermined path relative to the tibial platform means thereby providing the bearing insert means with improved medial-lateral stability substantially unaffected by the axial rotation and/or anterior-posterior shift of the bearing insert means during joint articulation.

~~Rewrite Claim 57 as Claim 57 (amended) as follows:~~

47 57. (amended) An improved prosthetic joint according to Claim [48] ~~58~~ wherein the means for [providing the bearing insert means with improved medial-lateral stability] constraining motion of the bearing insert means during joint articulation to a predetermined path relative to the tibial platform means comprise a projection and a curved track for receiving the projection.


~~Rewrite Claim 58 as Claim 58 (amended) as follows:~~

48 58. (amended) An improved prosthetic knee joint, comprising:  
a tibial platform for replacing tibial portions of a knee, the tibial platform provided with two outwardly curved tracks on its superior surface for constraining motion of a pair of intermediate tibial bearing components during joint articulation to a predetermined path relative to the tibial platform;

Serial No. 053,694

*P* a femoral component for replacing femoral portions of the knee, the femoral component provided with an inferior generally convex bearing surface;

*P* a pair of intermediate tibial bearing components; each component provided with an inferior bearing surface for being slidably received in one of the outwardly curved tracks, and each component provided with a superior generally concave bearing surface for articulation with the inferior generally convex bearing surface of the femoral component; and

*P* during knee joint articulation: the pair of tibial bearing components simultaneously sliding anteriorly  posteriorly in the outwardly curved tracks to provide [unconstrained] anterior-posterior shift, one of the tibial bearing components sliding anteriorly in one of the outwardly curved tracks while the other of the tibial components is sliding posteriorly in the other of the curved tracks to provide [unconstrained] axial rotation, and the tracks providing enhanced medial-lateral stability.

Add the following new claims:

*C4* --60. An improved prosthetic joint according to Claim 4 wherein said means for constraining motion of the bearing insert means during joint articulation to a predetermined path relative to the tibial platform means include said femoral component means.

61. An improved prosthetic joint according to Claim 23 wherein said means for constraining motion of the bearing insert means during joint articulation to a predetermined path relative to the platform means include said second bone component means. --